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THE INFLUENCE OF ENGLISH AGRICULTURE ON AMERICAN AGRICULTURE, 1775–1825[1]

English agriculture entered a period of great activity and improvement in the second half of the eighteenth century. Although the changes of those years do not compare with the tremendous advances of the next century, they included the introduction of new crops and agricultural machinery and marked improvement in methods of cultivation and stockbreeding as well as transportation and communication. If English agriculture walked with seven-league boots in the nineteenth century, those boots were being fitted in the preceding century.[2]

Agriculture was then the fashion in England, and if its cause sometimes suffered from the undiscerning enthusiasm of amateur practitioners, the advantages gained by the adherence of men of means and leisure more than made up for any ill effects. Wealthy men, usually members of the nobility or upper squirarchy, could afford to experiment with new kinds of livestock and crops, new methods of cultivation, and newly invented agricultural machinery. Moreover, their position commanded attention, if not respect, for their latest discoveries or improvements. But this enthusiasm for agriculture, this passion for improvement and experimentation, was not confined to the ranks of the nobility. Almost any gentleman farmer or parish cleric could, and often did, afford an experimental plot in his garden,[3] and almost any London hack writer was sure of a best seller if he extolled the benefits of a new improvement in agriculture.

This ferment of ideas and activity was stimulated, recorded, and brought to the notice of the world by farm periodicals and

[1] Presented at the joint session of the Agricultural History Society with the American Historical Association at Providence, Rhode Island, on Dec. 29, 1936.

[2] Ernle, *English Farming, Past and Present*, 149 (ed. 4. London, 1927).

[3] *Ibid.*, 207–208.

books, agricultural societies, and private agricultural shows, or sheep shearings, held by members of the nobility.

In America, agriculture was also the fashion, albeit to a more limited extent, among men of leisure, wealth, or education. Although political theory and revolution occupied men's thoughts and energies for a time, they did not wholly exclude interest in agricultural matters. As early as 1776 James Warren wrote to John Adams that he had seen an advertisement in a Philadelphia newspaper for "a piece on Husbandry," and requested Adams to purchase the book if it was "well executed and of any consequence."[4] As soon as the Revolution was over, men's thoughts turned from swords to plowshares. In 1786 Warren asked Adams, who was then in London, to purchase two books on agricultural subjects, and added: "A Charming Enthusiasm is prevailing for Agriculture."[5] Adams replied dryly: "The Enthusiasm for Agriculture like Virtue will be its own Reward. may it run and be glorified."[6]

Although difficult to prove, it seems likely that, in following the fashion for agriculture, American leaders, few of whom were actual practising farmers, received their inspiration from England. The Revolution had not snapped all of the traditional ties, and the habit of looking to the mother country for cultural guidance was not easily broken. The Philadelphia Society for Promoting Agriculture was formed in 1785 and the Massachusetts Society for Promoting Agriculture in 1792 at about the same time as their English counterparts, but they were largely dependent on England for material with which to fill their publications.[7]

The influence of English agriculture on American agriculture

[4] The book was Arthur Young's *Rural Economy*, reprinted by James Humphreys, Jr., at Philadelphia in 1776. James Warren to John Adams, July 10, 1776, in Massachusetts Historical Society, Boston, *Warren-Adams Letters*, 1:258–260 (Boston, 1917).

[5] James Warren to John Adams, Apr. 30, 1786, in *ibid.*, 2:273 (Boston, 1925).

[6] John Adams to James Warren, July 4, 1786, in *ibid.*, 277.

[7] See the Philadelphia Society for Promoting Agriculture, *Memoirs*, 1808–18; and the *Massachusetts Agricultural Repository*, 1–2 (1801–11), continued as the *Massachusetts Agricultural Repository and Journal*, 3–6 (1815–21).

can best be shown by turning to the men and institutions with whom Americans were in contact and by looking at some of the ideas and materials which crossed the Atlantic. Probably the most influential figure in English agriculture at this time, and certainly the one whom American tourists were most desirous of meeting, was the famous Thomas Coke of Holkham.[8] He was of interest to them because he had been one of the earliest and best friends of the American cause during the Revolution,[9] and because his annual sheep shearings afforded an opportunity to see the latest and best in agricultural improvements. His hospitality seemed boundless, and not a few Americans took advantage of it.[10] Not only did they attend his exhibitions,[11] but they made requests of him that would have sorely taxed the patience of anyone less agreeable. For instance, Rufus King, writing from New York in 1810, asked Coke to get someone to select and purchase for him four cows "of the most approved sort for milk and form," and Richard Caton of Baltimore in 1817 asked Coke to choose for him "certain implements of husbandry."[12]

The descriptions of the "magnificent exhibition" at the Holkham sheep shearings, sent home by American visitors and widely copied by American magazines and newspapers from English sources, probably influenced the development of American agricultural shows.[13] Robert R. Livingston held annual sheep shearings at Clermont, New York, and the attendance in 1810 was about two hundred.[14] In the same year George W. P. Custis held a similar gathering at Arlington, Virginia.[15] When farming

[8] R. Caton to Coke, May 2, 1833, in Coke MSS. 747 vol. 3 (Library of the Earl of Leicester, Holkham Park, Norfolk, England).

[9] *American Farmer*, 3:251 (Nov. 2, 1821).

[10] Coke MSS. 747 vol. 3 includes many letters from Americans who had been present at the sheep shearings.

[11] *American Farmer*, 2:217–220 (Oct. 6, 1820); 3:258 (Nov. 9, 1821).

[12] Rufus King to Coke, July 29, 1810, and R. Caton to Coke, Mar. 2, 1817, in Coke MSS.

[13] Theodore Lyman, Jr. to Coke, Aug. 6, 1819, in Coke MSS.; *American Farmer*, 2:104, 112, 120 (June 23, 30, July 7, 1820).

[14] *American Medical and Philosophical Register*, 1:113–115 (ed. 2. New York, 1814).

[15] Baltimore *Evening Post*, May 14, 1810.

enthusiasts from Georgia, South Carolina, Pennsylvania, and Massachusetts visited the farm of Earl Stimson near Saratoga, New York, they felt that "It was a *miniature* picture of Mr. Coke, and his 500 followers over the fields of Holkham, except that we went on foot, and Mr. Stimson himself was not mounted on an old white charger. . . ."[16]

Coke's most important contribution to American husbandry was his generous gift of North Devon cattle to Richard Caton and Robert Patterson of Maryland and Mrs. Charles King of New York. These cattle were so highly regarded that James Mease of the Philadelphia Society wrote to Coke in 1819, thanking him, and remarked that he had tried to encourage their importation by offering premiums but had not succeeded.[17] The yearling bull and six heifers that Coke gave to Patterson were landed at Baltimore in June 1817 and became quite popular. Out of his herd Patterson furnished bulls to breeders in New York, Maryland, and Connecticut.[18] Lemuel Hurlbut of Winchester, Connecticut, purchased the celebrated Devon bull, "Holkham," from Patterson in 1819, and this appears to have been the first importation of full-blooded Devons into New England. Hurlbut's Devons had a ready sale, and over a period of thirty-seven years, he sold above fifteen hundred head, filling orders from nearly every State. Later it was said that "It would be difficult to estimate the increased value of the neat stock in the United States, from the infusion of Devon blood from this herd alone. Much of the beauty of New England oxen is due, at least, to a trace of Devonshire, while the high grades, as fancy cattle, are unsurpassed."[19]

The names of Sir John Sinclair and Arthur Young are closely associated with the English Board of Agriculture. The former was its prime mover and first president, and the latter, its secretary through nearly the whole of its existence from 1793 to 1822.

[16] *New England Farmer*, 3:84 (Oct. 9, 1824).

[17] J. Mease to Coke, Sept. 14, 1819, in Coke MSS.

[18] *American Farmer*, 3:98, 112 (June 22, 30, 1821).

[19] Connecticut State Agricultural Society, *Transactions*, 1855:326 (Hartford, 1856).

Sinclair was devoted to agriculture and spent his lifetime in furthering its cause. He believed that agriculture could be aided by governmental institutions that would gather and disseminate information on matters of agricultural interest. Although his methods were sometimes criticized by his associates, his contributions on the whole were of service.[20]

The correspondence of these two agriculturists with Washington was published as early as 1801.[21] Sinclair urged that a national board of agriculture be established at Philadelphia with junior societies in the capital of each State.[22] Washington favored the idea and recommended the creation of such a board to Congress, but the pressure of other business during the short session of 1796–97 prevented action.[23] Probably, too, Congress did not want to spend the money necessary for such a project. Washington had written earlier to Sinclair: "It will be sometime I fear, before an Agricultural Society with Congressional aids will be established in this country:—we must walk, as other countries have done, before we can run; Smaller Societies must prepare the way for greater. . . ."[24] For the moment the plan lapsed, only to be revived in the winter of 1802–03. Thomas Jefferson wrote to Sinclair on June 30, 1803: "Our Agricultural Society has at length formed itself. Like our American Philosophical Society, it is voluntary, and unconnected with the public, and is precisely an execution of the plan I formerly sketched to you. Some State Societies have been formed heretofore; the others will do the same. Each State Society names two of its members of Congress to be their members in the Central Society, which is of course together during the sessions of Congress. They are to select matter from the proceedings of

[20] M. Betham-Edwards, ed., *The Autobiography of Arthur Young*, 241–243 (London, 1898).

[21] *Letters from His Excellency George Washington to Arthur Young, esq., F. R. S., and Sir John Sinclair, bart., M.P.* (London, 1801). Also printed at Alexandria, Va., 1803.

[22] *The Correspondence of the Right Honourable Sir John Sinclair*, 2: appendix, p. 5 (London, 1831).

[23] Washington to Sinclair, Mar. 6, 1797, in British Museum, Add. MSS. 5757.

[24] Washington to Sinclair, July 20, 1794, in *ibid.*

the State Societies, and to publish it, so that their publications may be called, L'Esprit des Societés d'Agriculture, &c. The Central Society was formed the last winter only, so that it will be some time before they get under weigh. Mr. Madison, the Secretary of State, was elected their President."[25] However, this ambitious scheme apparently came to nothing.

Some years later when Elkanah Watson sought the aid of influential men in establishing a national board of agriculture, Jefferson was able to recall that an effort had been made previously, while James Madison doubted the constitutionality of such a board.[26] However, Sinclair's efforts were not entirely in vain. In New York a board of agriculture was created by the Legislature on April 7, 1819, and $10,000 was appropriated for division among the county societies. It consisted of one member from each of the county societies, and twenty-six were present at its first meeting. The Board intended to model itself on some of the French and Italian agricultural societies, but particularly on the English Board of Agriculture. The object was to "elicit the disclosure of all the resources of which the art of agriculture is susceptible," and the county societies and the clergy were called upon to aid the project.[27]

Sinclair was a writer of some ability. His *Code of Agriculture* was widely known in America, and after its reprinting here in 1818, it was said to be "in the hands of every intelligent agriculturist."[28] Both before and after its reprinting extracts were widely copied and warmly recommended in American periodicals and newspapers.[29] According to John Stuart Skinner, Sinclair "has made us rejoice in America, that we are masters of the

[25] *Correspondence of . . . Sir John Sinclair*, 2:41–43.

[26] W. C. Watson, ed., *Men and Times of the Revolution; or, Memoirs of Elkanah Watson*, 405–407 (New York, 1856).

[27] *Address of the General Committee of the Board of Agriculture of the State of New York to the County Agricultural Societies for 1820* (Albany, 1820).

[28] *Correspondence of . . . Sir John Sinclair*, 1:277.

[29] See the *Maryland Gazette and Political Intelligencer*, Mar. 4, 1819; *American Farmer*, 1:43–45 (May 7, 1819); and *Original Communications made to the Agricultural Society of South-Carolina, and Extracts from Select Authors on Agriculture*, 57–132 (Charleston, 1824).

language in which he delivered to the world his inestimable and immense collection of agricultural literature. . . . He has taught us, by the happiest examples and the most effectual means, how to examine and how to make a perfect exposition of the agriculture of a country. . . . He has a title also to our gratitude from the generous views he has frequently taken of the colossal stature and natural capacities of our landed interest."[30]

Arthur Young, secretary of the English Board of Agriculture, was a voluminous writer on agricultural subjects. Although a failure as a farmer and sometimes over-enthusiastic about new methods and discoveries,[31] his keen mind, intelligent reporting, and lively pen did much to diffuse knowledge of better farming practices. Young was the first of the touring farming reporters, and if his trips were taken primarily to escape the attentions of a shrewish wife, the results were nevertheless valuable to his contemporaries and to posterity. Young not only praised farming practices which he conceived to be beneficial, but he also condemned old-fashioned methods with such a flow of invective—seeking, perhaps, to destroy the out-moded customs by the force of his language—that he had his imitators on both sides of the Atlantic. John Beale Bordley of Maryland, author of *Sketches on Rotations of Crops* and *Essays and Notes on Husbandry and Rural Affairs*, admitted his indebtedness to Young,[32] and the following quotation shows to what extent he was influenced by Young's manner of thinking and style of writing: "But, in many parts of America are idle improvident people, masters of farms, who spend their time in taverns or other places of wasteful amusement: any where rather than at *home*. . . . *Such a people* can never be brought to soil cattle, or at all improve their farms . . . they mount their horses and hurry to the tavern, the race, nine-pins, billiards, excess upon excess of toddy, and the most nonsensical and idle chat, accompanied with exclamations and roarings, [as] brutal and foreign to common sense and

[30] *American Farmer*, 2:103 (June 23, 1820).

[31] Extract from letter by Richard Peters, in *American Farmer*, 3:65 (May 25, 1821).

[32] [J. B. Bordley], *Sketches on Rotations of Crops*, 66 (ed. 2. Philadelphia, 1796).

manners as the mind of wisdom can conceive of depraved man."[33]

Young's position as a writer determined his influence upon American agriculture. As we have already seen, his works were known in America at the beginning of the Revolution. Many of his recommendations were tried, although not always with success.[34] However, he was generally held in high esteem. John Taylor of Caroline, in answer to a request for a list of books which would be of value to the library of a young farmer, said: "Arthur Young alone seems to me to occupy the station among agriculturists, which Bacon does among philosophers. . . . His works, under the titles of annals, travels, &c. are very extensive, and would alone, as they extend to about 20 octavo volumes, constitute a valuable agricultural library."[35] Jefferson, replying to the same question, was more critical. He held that Young's *Rural Economy*, *Farmer's Guide*, *Experimental Agriculture*, and *Travels in France* contained "whatever of his, is worth having" and that "Young's Annals of Agriculture and many other works, written merely for money [,] are scarcely worth buying."[36]

The English Board of Agriculture also maintained relations with leaders in the new nation. Seven Americans—George Washington, John Adams, Thomas Jefferson, John Jay, Rufus King, Dr. Enoch Edwards, and William West—were made honorary members.[37] The correspondence of the Board has disappeared, but there are two record books in the library of the Royal Agricultural Society which indicate its extent. An examination of the first volume, a "Register of Letters Received, 1793–1819," reveals Washington, Jefferson, Dr. Enoch Edwards,

[33] J. B. Bordley, *Essays and Notes on Husbandry and Rural Affairs*, 182–183 (Philadelphia, 1799).

[34] Letter from Richard Peters to Josiah Quincy in *Massachusetts Agricultural Repository and Journal*, 3:349–351 (Boston, 1815); Philadelphia Society for Promoting Agriculture, *Memoirs*, 2:71 (1811), 3:128 (1814); *American Farmer*, 2:31 (Apr. 21, 1820).

[35] John Taylor of Caroline to George W. Jeffreys, Aug. 16, 1816, in *American Farmer*, 2:93 (June 16, 1820).

[36] Jefferson to George W. Jeffreys, Mar. 3, 1817, in *ibid.*

[37] "List of the Members of the Board of Agriculture," in *Pamphlets 164* of the library of the Royal Agricultural Society of England.

Richard Peters, George Logan, and the Newark and Massachusetts agricultural societies among the American correspondents of the Board. The second volume, the "Board of Agriculture Copy Letter Book" for September 4, 1793 to October 14, 1800, indicates that letters were sent to Washington, Jefferson, John Jay, the Massachusetts and New York agricultural societies, William West, and others. From various sources, then, we have evidence that there was considerable correspondence carried on between the two countries on agricultural matters.

Besides the Devons which Coke gave to his American friends, other breeds of blooded stock were imported from England. Colonel Archibald Cary of Ampthill, Virginia had imported longhorns, probably Lancashires, sometime during his lifetime (1721–1787), but after his death they degenerated, and by 1793 there were very few left.[38] America witnessed a craze for large cattle in the 1790's, and to reach the size demanded, the imported English cattle were bred in-and-in until the beef became so coarse that it was uneatable.[39]

Robert Bakewell, father of the English stockbreeding art, sent a bull and two heifers to Maryland in 1788.[40] These cattle proved so small and disappointing to the importer, Colonel Edward Lloyd of Wye River, Maryland, that he neglected to answer Bakewell's letter.[41] Yet the offspring of the Bakewell cattle were described as being very fat, and others were imported later at great expense.[42] In 1799 the only sheep of the Dishley breed in America known to Bordley were in Quebec, but in later years they are frequently mentioned.[43] American breeders,

[38] William Tatham, *Communications concerning the Agriculture and Commerce of the United States of America*, 69–70 (London, 1800).

[39] Bordley, *Essays and Notes on Husbandry*, 191–192; *American Farmer*, 3:109 (June 29, 1821).

[40] Bakewell to Arthur Young, Mar. 10, 1788, in British Museum, Add. MSS. 35, 126 f. 417.

[41] Richard Parkinson, *A Tour in America, in 1798, 1799, and 1800*, 576 (London, 1805).

[42] *Ibid.*, 228; *American Farmer*, 2:113 (July 7, 1820).

[43] Bordley, *Essays and Notes on Husbandry*, 212; *American Register* (Philadelphia) 2:279 (1807); *American Farmer*, 1:10–11 (Apr. 9, 1819); 2:7, 112, 239 (Mar. 31, June 30, Oct. 20, 1820).

like their English contemporaries, found that Bakewell's supposed method of breeding in-and-in led to constant deterioration. Bone and size became smaller; the ewes were barren, and the lambs sickly.[44]

The most valuable stock introduced from England were the Shorthorn cattle. They had been developed by Charles and Robert Colling and others by crossing the Holderness, Norman, and Lincoln breeds. The special qualities which made Shorthorns so valuable were early maturity, great weight in valuable parts, and economy in feeding.[45] One of the early importers of this breed was Henry Gough of Maryland, who showed imported Shorthhorns to Richard Parkinson when he was in America.[46] Although they were not liked at first, their fame spread rapidly, and they became the most popular of the imported breeds. After 1815 many Shorthorns were imported or received as gifts in all parts of the country, from Massachusetts as far south as South Carolina and as far west as Kentucky.[47] Other breeds of stock brought from England in this period were Hereford and Alderney cattle, Suffolk, Punch, and Cleveland Bay horses, Southdown sheep, and Bedford hogs.[48]

The English succeeded in inducing American farmers to adopt their livestock, but they were less successful in persuading Americans to use English field culture and agricultural machinery. Although their scythes, sickles, hoes, spades, shovels, plough-irons, cart boxes, and millstones found a ready market

[44] Philadelphia Society for Promoting Agriculture, *Memoirs*, 3:52–53, 171–172 (1814).

[45] J. C. Curwen to John Stuart Skinner, in *American Farmer*, 3:19 (Apr. 13, 1821).

[46] Parkinson, *Tour in America*, 287–290.

[47] *American Farmer*, 2:172–173 (Aug. 25, 1820); 3:112, 220 (June 29, Oct. 5, 1821); Philadelphia Society for Promoting Agriculture, *Memoirs*, 5:161–166 (1826); *New England Farmer*, 1:93, 98, 110 (Oct. 19, 26, Nov. 2, 1822); 2:210, 403 (Jan. 31, July 17, 1824). See also C. T. Leavitt, "Attempts to Improve Cattle Breeds in the United States, 1790–1860," in *Agricultural History*, 7:51–67 (April 1933).

[48] *American Farmer*, 2:79, 101, 172 (June 2, 23, Aug. 25, 1820); 3:97–98, 134–135 (June 22, July 20, 1821).

in the United States,[49] English drills, ploughs, straw-cutters, scarificators, and similar instruments were too ponderous and costly to be used by the American farmer and served only as models for Yankee ingenuity. The scarcity of labor in America made simplicity and ease of operation imperative, and American inventiveness remodelled English tools to meet these needs, or, as in the case of the drill for maize, altered an English machine to fit a crop peculiar to the United States.[50]

Since the days of "Turnip" Townshend in the early part of the eighteenth century, the use of root crops, such as swedes, mangel-wurzels, and potatoes, had been coming increasingly into prominence in England. These roots not only made good fallow crops, but they also provided winter forage for livestock. Ordinarily, the English climate was so mild that the roots could be left in the ground all winter and pulled only when needed. Through their use a larger number of livestock could be kept on the farm than formerly.

The benefits of the root crops to English farming economy were generally admitted, and indeed, were so evident that it is not surprising that attempts were made to use them in the same manner in America. Richard Peters of Philadelphia cultivated the mangel-wurzel shortly after the Revolution and considered it a good winter-food for livestock.[51] However, until William Cobbett wielded his powerful pen in their favor, root crops were not widely tried in America. Cobbett, who was here in exile in 1817 and 1818, suggested the use of rutabagas as livestock food during the winter months.[52] The idea was immediately translated into action, and soon boxes of "Cobbett's Selected Seeds," imported from England, together with a pamphlet of directions by him, could be obtained for five dollars.[53]

[49] Advertisements in Baltimore *Evening Post*, May 10, July 1, 5, 1805, and in *Maryland Journal and Baltimore Advertiser*, Aug. 12, 1777.

[50] Philadelphia Society for Promoting Agriculture, *Memoirs*, 2:145 (1811); *American Farmer*, 3:99 (June 22, 1821).

[51] Philadelphia Society for Promoting Agriculture, *Memoirs*, 3:126–134 (1814).

[52] William Cobbett, *A Year's Residence in the United States of America*, 14, 98, 101, 112 (London, 1818).

[53] *American Farmer*, 1:23 (Apr. 16, 1819); 2:8 (Mar. 31, 1820).

Some American farmers reported that their use of root crops was successful,[54] but most of them found that the roots could neither be left in the ground nor fed in the open because of the severe winters. Besides, turnips imparted an unpleasant flavor to the milk and butter.[55] Moreover, Indian corn was a better fallow crop and more suited to the needs of our soil, climate, and labor supply. In addition to root crops, various meadow grasses and vetches,[56] garden seeds, flowers, shrubs, and fruit trees were imported from England.[57]

To sum up then, American farm leaders looked to England for guidance during the period 1775 to 1825, and particularly before the War of 1812. After the second conflict with England the break between the two countries was more complete, and Americans turned from the East to the West, realizing that while the experience of other countries would be useful, there were some problems confronting them that could be solved only by American action. Moreover, the agriculture of England was no longer advancing; the economic depression of the post-Napoleonic years struck it with terrific force, and the farmers were content if they could hold advances previously made.

American farm leaders, who, after all, were the only ones in touch with what the English improvers were doing, realized that it was impossible to transfer the English way of farming to the United States. Conditions in the two countries were different. We lacked labor and capital, not land. Our farming was extensive, and intensive, scientific culture was unprofitable. Our climate was different; where English summers were cool and moist, ours were hot and dry.

In spite of the failure to adopt English farming methods,

[54] *Ibid.*, 2:30 (Apr. 21, 1820); Philadelphia Society for Promoting Agriculture, *Memoirs*, 3:126–134 (1814).

[55] *New England Farmer*, 1:196, 401–403 (Jan. 18, July 19, 1823); 2:196–197 (Jan. 17, 1824); *American Farmer*, 2:30 (Apr. 21, 1820).

[56] *Massachusetts Agricultural Repository and Journal*, 5:62–64 (1819); Letter by "Agricola" from Boston in 1786, reprinted in Daniel Adams, ed., *The Medical and Agricultural Register, for the Years 1806 and 1807*, 343–346 (Boston, 1806–07).

[57] Advertisements in Baltimore *Evening Post*, June 2, 1807, and *Columbian Centinel* (Boston), Apr. 4, 1792, Apr. 13, 1793, Mar. 29, 1794.

American agriculture benefited from the attempt. We did not need larger crops from the same piece of ground, but we did need good livestock, and England's greatest contribution to American agriculture during this period was the supply of improved breeds of livestock, particularly cattle, that was sent to our shores.

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THE HISTORICAL SIGNIFICANCE OF THE CHICAGO GRAIN ELEVATOR SYSTEM[1]

As early as 1860 the grain trade of the United States was considered the "leading agency in the opening up of seven eighths of our settled territory."[2] Between 1825 and 1875 the westward tide of population swept along the Ohio and Mississippi rivers and out from the Great Lakes. Settlers were pushed from the wooded valleys onto the fertile prairies which soon became vast grain fields. In order to market their crops, the settlers demanded river improvements, roads, canals, and railroads. Capital, expecting to profit from the carrying trade, ventured to supply these transportation facilities. A network of railroads ultimately spread over the better lands, and trains shuttled back and forth, taking settlers out and returning with grain.

An inseparable part of the rapid industrialization of society, usually referred to as the industrial revolution, was the increasing regional specialization in agriculture. The opening of the Middle West was simultaneous with, and to a great extent dependent on, the development of rapid and cheap transportation. The land of the upper Mississippi Valley was low priced and yielded cereal crops in abundance. By the middle of the nineteenth century, this new producing region was connected by canal, railroad, and steamship lines with the markets on the eastern seaboard and in Europe.

Grain as capital and the basis of credit was one of the most significant factors in our national life during the nineteenth century. The farmer exchanged his grain for machinery and other manufactured goods. The Middle West as a section used

[1] Presented in part at the joint session of the Agricultural History Society with the American Historical Association at Providence, Rhode Island, on Dec. 29, 1936.

[2] U. S. Census Office, Eighth Census, 1860, *Agriculture of the United States in 1860*, cxxxv (Washington, 1864).

it to obtain currency and goods from the East. With Eastern credit, the West expanded vertically by building banks, railroads, and factories. After the Civil War, grain became the leading commodity in domestic and foreign commerce. The foreign trade financed importations of goods and capital and created social and economic conditions in Europe that were of importance to the entire world. Nothing contributed more to the American agricultural revolution of the nineteenth century than the change in methods of transporting and marketing grain.[3]

A detailed consideration of the growth of the Chicago market further emphasizes the importance of the grain trade. Chicago was, and still is, the world's greatest grain market. It was never a great consuming center as it forwarded almost all the grain that it received to the East. Chicago's average annual shipments of bushels of grain and flour by five-year periods from 1850 to 1890 were: 1850–54,—6,345,794; 1855–59,—18,813,613; 1860–64,—47,814,724; 1865–69,—58,678,057; 1870–74,—77,105,740; 1875–79,—98,904,081; 1880–84,—137,984,412; 1885–89,—150,515,761.[4]

By 1860 the internal grain trade of the United States was already concentrated in five primary markets, namely Chicago, Toledo, St. Louis, Milwaukee, and Cincinnati. Of these five points, Chicago easily held the lead. In terms of quantity, it far outdistanced all competitors, for at no time between 1860

[3] For discussions of the significance of the grain trade, see *ibid.*; U. S. Census Office, Tenth Census, 1880, *Report on the Productions of Agriculture*, 522 ff.; "The Grain Trade of the United States and Tables on the World's Wheat Supply and Trade," U. S. Treasury Department, Bureau of Statistics, *Monthly Summary of Commerce and Finance*, January 1900, p. 1957–2075; L. B. Schmidt, "The Internal Grain Trade of the United States, 1850–1860," in *Iowa Journal of History and Politics*, 18:94–124 (January 1920), and "The Internal Grain Trade of the United States, 1860–1890," in *ibid.*, 19:196–245, 414–455 (April, July 1921), 20:70–131 (January 1922); H. J. Wunderlich, "Foreign Grain Trade of the United States, 1835–1860," in *ibid.*, 33:27–76 (January 1935); William Trimble, "Historical Aspects of the Surplus Food Production of the United States, 1862–1902," in American Historical Association, *Annual Report*, 1918:223–239 (Washington, 1921).

[4] The figures are based on U. S. Treasury Department, Bureau of Statistics, *Monthly Summary of Commerce and Finance*, January 1900, p. 2002.

and 1890 did its nearest rival receive half as much grain.[5] Backing its boast with figures, the "Windy City" claimed to be the world's greatest primary grain market as early as 1854. It received 46 percent of all the grain that entered the five principal markets in 1860; 39 percent of the receipts of the six most important markets in 1870; 42 percent of the total for the nine leading markets in 1880; and 41 percent of the ten main markets in 1890.[6] Chicago's importance in the grain trade is further emphasized by the fact that it has always been the world's foremost futures market.[7]

The basic reason for Chicago's preeminence was its location, but that alone would have been of little value without the man-made facilities which were developed there. Conversely, they were built because the location attracted millions of bushels of grain. To handle this vast stream and to offset the scarcity of labor it was necessary to develop places of storage with machinery which insured speedy and low-cost handling. The result was the grain elevator system, a mechanism entirely unknown in 1840, but which, in the succeeding half-century, became a key factor in revolutionizing the grain trade of the world.

The elevator system has two parts—the physical plant and the method and procedure for handling grain. The mechanical principles were first used in an elevator built by Joseph Dart at Buffalo in 1842.[8] Although a few ideas may have been borrowed from the Buffalo market, the development of elevators in Chicago was largely independent and soon far outgrew the the older system. Buffalo, at the foot of the Lakes, was almost wholly a transfer point, whereas Chicago was a collecting, storage, and market, as well as transfer, center. Later considera-

[5] L. B. Schmidt, in *Iowa Journal of History and Politics*, 19:449–455.

[6] *Ibid.* The computations of percentages are mine.

[7] U. S. Federal Trade Commission, *Report of the Federal Trade Commission on the Grain Trade*, 5:27–43 (Washington, 1920).

[8] For Buffalo elevator history, see Joseph Dart, "The Grain Elevators of Buffalo," in Buffalo Historical Society, *Publications*, 1:391–404 (Buffalo, 1879); and H. W. Hill, ed., *Municipality of Buffalo, New York; A History, 1720–1923*, 2:735–755 (New York and Chicago, 1923).

tion of these facts will show how the Chicago elevator system surpassed its only predecessor.

The elevators of Chicago were huge skyscraper warehouses holding from five hundred thousand to five million bushels each. Their capacity was due to long, slender, perpendicular bins rather than floor space, an arrangement that permitted the loading of cars and boats by gravity. The core of the structure was a long, endless, power-driven belt, equipped with buckets or cups to carry the grain from the bottom to the top of the building where it was delivered to the proper bins. This device gave the elevator its name and was the basis of efficient mechanical handling.[9] After 1848 most of the grain received at Chicago came on the huge fan-shaped network of rails that penetrated the grain fields. Each carload might originate at a separate station and might have different ownership. Under the old system each received individual treatment, separate binning, and sale by examination and bickering, but during the fifties grain was poured into Chicago in such quantities that the new elevators, pressed into service at this time, mixed the grain according to grade rather than ownership. Of a hundred carloads on a warehouse switch, ten might go into a bin marked "Club Wheat," thirty into one marked "No. 1 Spring," forty into a bin marked "No. 2 Spring," and twenty into another marked "Inferior Spring." Thus, each lot lost its identity and became part of the general supply of a particular grade. To the individual owner or his agent, the warehouseman gave a receipt which entitled the bearer to withdraw a designated portion of a specified grade of grain. In some respects the system was like a bank wherein deposits of checks, bills, and coin are made and later amounts of equal value rather than the identical deposits are withdrawn. This method of storing was as much a part of the elevator system as the endless belts and the grain chutes.[10]

[9] For representative descriptions, see *Daily Democratic Press* (Chicago), Feb. 23, 1855; *Chicago Tribune*, July 23, 1862; *American Elevator and Grain Trade*, 4: 134 (Dec. 15, 1885). European travelers frequently gave picturesque descriptions of Chicago elevators.

[10] Probably the most complete discussion of early grain grading is "The System of Grain Inspection; Its Establishment and Growth," in *American Elevator and Grain Trade*, 12:226–227, 260–261, 299, 333 (Jan. 15, Feb. 15, Mar. 15, Apr. 15, 1894).

Without this elevator system it would have been impossible to handle the quantities of grain coming to Chicago after the advent of railroads in 1848. As early as the winter of 1861–62 the elevators were holding more than six million bushels for the opening of lake navigation, always an important outlet and almost the only one for another decade.[11] It was always necessary to have a vast reserve of storage space, for, prior to 1875, practically all grain went into store, and even in 1880, 80 per cent was so handled. The rapid development of through rail service took place in the 1880's.[12] Not only was space a necessity to the traders, but it enabled cars from the west to unload and carriers from the east to obtain loads without delay. To meet these needs, the storage space of four million bushels in 1858 nearly doubled during each succeeding decade until the total capacity was thirty million bushels in 1888.[13] Even this amount of space was sometimes inadequate, and the entire grain trade realized its vital importance when huge receipts or the antics of speculative adventurers cornered the storage room and blocked the Chicago gateway.[14]

The elevators contributed speed as well as space. Whereas it took an Irish crew with boxes and baskets a whole day to load a boat with seven thousand bushels in the 1840's, the same amount of work could be done in an hour by one man a decade later.[15] In 1855 the Galena elevator could unload one hundred

[11] Chicago Board of Trade, *Fifth Annual Statement of the Trade and Commerce of Chicago, for the Year Ending December 31, 1862*, p. 12 (Chicago, 1863). The bushels of grain in store during the first week of April, as taken from the annual statements, are: 1860,—1,906,543; 1865,—5,341,319; 1870,—4,485,776; 1875,—7,170,958; 1880,—14,426,959; 1885,—18,638,389; 1890,—15,510,219. G. G. Tunell, "The Diversion of the Flour and Grain Traffic from the Great Lakes to the Railroads," in *Journal of Political Economy*, 5:340 ff. (June 1897); Illinois State Railroad and Warehouse Commission, *Annual Report*, 6:52 (Springfield, 1876).

[12] *Ibid.*, 10:537 (Springfield, 1881), 20:209 (Springfield, 1890). These reports show that only about 6 percent of the grain inspected at Chicago in 1875 went through the city without going into store. In 1880, the through shipment was about 20 percent; in 1885, 58 percent; and in 1890, 54 percent.

[13] Chicago Board of Trade, *Annual Statement for 1858*, 7; *Ibid.* for 1888, 115.

[14] *Chicago Tribune*, July 4, 1868, June 4, 1870, Oct. 7, 1870, Dec. 29, 1871, Jan. 11, 1872, Sept. 30, 1881; *American Elevator and Grain Trade*, 5:267 (June 15, 1887).

[15] For early methods of handling grain in Chicago, see *Chicago Daily Press*, July 23, 1857. *Daily Democratic Press*, Aug. 6, 1856.

cars per day.[16] Once the useful mechanical principle of the elevator was discovered, it was easy to increase the speed by making the belts stronger, the buckets larger and more numerous and by using more power to drive the belts. In 1885 the Armour, Dole, and Company elevator unloaded 400 cars or 200,000 bushels in a day.[17] About the same time the schooner *Golden Age* was filled with 94,780 bushels of corn in two hours and twenty minutes.[18] Such speed and mechanical efficiency were a great advantage in handling a seasonal crop when labor costs were high.

The system, with its belts and buckets and huge bins for storing grain by grade, developed in Chicago, because, as the first great inland market, it received annually tens of thousands of carloads of three to four hundred bushels each. The grain received at Buffalo came in lake boats of six thousand or more bushels capacity; in New York it arrived in canal boats holding from four to nine thousand bushels; and in St. Louis in bags or barge loads.[19] The units entering Chicago were small but numerous; swift handling required that they be collected mechanically, and thus the elevator system became a necessary adjunct of the railroads.[20] That such was the case is attested by the fact that New York, Baltimore, and other seaboard cities did not find the elevator system necessary until the 1870's when through freight service made it possible to ship grain directly from local points. After a period of confusion and congestion, the seaboard cities built elevators and handled it by the Chicago plan.[21] Probably the grain trade was the chief reliance of the early

[16] William Bross, *Commerce, Railroads, and Manufactures of Chicago; Two Articles Published in the Daily Democratic Press*, 58 (Chicago, 1855).

[17] *American Elevator and Grain Trade*, 4:134–135 (Dec. 15, 1885).

[18] *Ibid.*, 2:236 (May 15, 1884).

[19] U. S. Census Office, 1880, *Agriculture*, 534; G. G. Tunell, "Lake Commerce," in 55 Congress, 2 Session, *House Document 277*, 12–13, 27 (Washington, 1897–98). All of the grain-carrying units increase in size during this period.

[20] U. S. Census, 1880, *Agriculture*, 533–534.

[21] "Report of the Select Committee on Transportation Routes to the Seaboard," 1:27–28, 2:3, 74–77, 159–161, 280, 308, 344, and *passim* in 43 Congress, 1 session, *Senate Report 307*; New York Produce Exchange, *Annual Report of the Board of Managers for the Year Ending June 1, 1874*, 32–33, 508 (New York, 1874); Tunell, in *Journal of Political Economy*, 5:345–347 (June 1897).

railroads of the Middle West, but they were helpless without the Chicago elevators so long as transfer at lake points remained important.[22] The railroads built many of the elevators, and although they seldom managed them, they worked very closely with the rich and powerful operators.[23] The history of the grain elevators cannot be separated from that of the railroads.

Considering the physical handling of grain alone, the facilities for space and speed at Chicago had great local significance in making the city the chief collecting and storage point. They also had national importance in helping to develop railroads and lake fleets and had international as well as national significance as an essential part of a transportation system which made possible the opening of the Middle Western grain empire.

The part played by the elevator system in the trading scheme was even more important. For the first time anywhere, it forced into the grain trade huge quantities of uniform warehouse receipts based on a definite quantity and grade rather than an individual lot in store. The use of these receipts to represent a particular article is hundreds of years old, but their use based on a standard known to a large market group, developed quite independently as a direct product of the Chicago elevator system. Grades were first indicated on the receipts at Chicago in 1857.[24] The practice spread to other markets and became the

[22] The annual reports of the railroad directors make this fact very evident. The relationship was pointed out in James Caird, *Prairie Farming in America*, 32–35 (London, 1859); Pennsylvania Railroad, *Report of the Investigating Committee of the Pennsylvania Railroad*, 61 ff. (Philadelphia, 1874); J. G. Thompson, *The Rise and Decline of the Wheat Industry in Wisconsin*, 139, 156–157 (Madison, 1909).

Chicago remained very important as a lake port to the end of the century, but after 1880 lake shipments declined relatively. See Tunell in *Journal of Political Economy*, 5:348–355 (June 1897), and V. H. Olmsted, "Grain Movement in the Great Lakes Region," 23, U. S. Department of Agriculture, Bureau of Statistics, *Bulletin 81* (Washington, 1910).

[23] *Chicago Tribune*, Apr. 6, June 4, 1870, Nov. 26, 1872; Chicago, Burlington & Quincy Railroad, *Annual Report of the Directors for the Year 1861*, 11; M. Bradwell, ed., *Chicago Legal News*, 1:145–146; *Contract Books*, 2:331–334, 3:389–391, 492 (Illinois Central Railroad Offices, Chicago).

[24] A. T. Andreas, *History of Chicago from the Earliest Period to the Present Time*, 1:581 (Chicago, 1884).

keystone of a spectacular, worldwide, market structure.[25] H. C. Emery, an outstanding student of exchanges, once wrote that "the development of the system of grading and of elevator receipts is the most important step in the history of the grain trade."[26] Well may he have said so, for three basic and inseparable consequences followed the use of receipts; grain marketing was simplified and speeded up; credit was made mobile and enormously expanded; and speculation was facilitated.

As long as individual buyers had to seek individual sellers along North Water Street and go with them to the switch yards to haggle over the quality and price of the grain, trading could not proceed rapidly. A Chicago seller could not describe his grain to a buyer in Buffalo, New York, or Liverpool. Standardization brought a definite technical language which all participants in the grain trade understood. When receipts developed a moderately exact and uniform meaning as they did in Chicago in the sixties, trading could proceed rapidly and easily on an exchange, merely by the transfer of receipts. They were an essential factor in the growth of the Board of Trade. In the 1850's, Liverpool grain merchants probably never heard of Chicago,[27] but by 1867 Chicago grades were current in all of the grain marts of the United States and were not unknown abroad.[28] In 1876 northwestern spring wheat was first sold in Eastern ports for export, subject to Chicago inspection, and within a short time Chicago grades became standard throughout the commercial world.[29]

The aid given to capital and credit was also an important

[25] *Ibid.*, 1:585; National Board of Trade, *Proceedings of the Eighth Annual Meeting . . . June 1876*, 192 (Chicago, 1876). Unlike Chicago, Kansas City, and other large grain centers, Buffalo never had a workable system of standard grades. Federal Trade Commission, *Grain Trade*, 2:186. For the historical development of general warehouse receipts, see H. C. Emery, *Speculation on the Stock and Produce Exchanges of the United States*, 35 ff. (New York, 1896).

[26] *Ibid.*, 38.

[27] Andreas, *Chicago*, 2:325.

[28] *Ibid.*, 325, 378; Chicago Board of Trade, *Annual Statement for 1867–68*, 10; National Board of Trade, *Proceedings*, 1876, 192.

[29] Andreas, *Chicago*, 3:331, 1:585; B. F. Goldstein, *Marketing: A Farmer's Problem*, 181 (New York, 1928).

result of the development of elevator facilities at Chicago. Its vast store of grain, often exceeding in value the money held in trust by the banks of the city, functioned like the gold reserve of a nation or a bank of issue.[30] This was particularly true during the winters when wheat and corn accumulated to await the opening of lake navigation. The huge issues of warehouse receipts served as collateral for advances from local banks, Eastern capitalists, or grain merchants. The new capital was used to buy more grain and Eastern goods, or to build railroads. In any case it went into the general business of the Middle West. Real estate or a thousand other things may be used as the basis of credit expansion, but the grain in the Chicago elevators was ideal as it was always useful and present in vast quantities.

The grain facilities helped to make Chicago the financial capital for a large part of the Middle West. The elevators and the credit made possible by them played an important part in directing grain eastward and away from the Mississippi River route in the 1850's.[31] In 1875 it was said that the money used in the grain trade of Chicago was vastly in excess of that used in any trade in any other city of the Continent. The cash business amounted to $200,000,000 and the option, or speculative business to $2,000,000,000. Eastern buyers came to Chicago with funds, and bills on London and Paris became nearly as common as bills on New York.[32] In this financial empire elevators and their receipts were basic. Conditions within elevators might affect world markets, and world markets might affect whole economic structures. Therefore, banks were much interested in such things as forms of warehouse receipts, amounts of grain in store, credit advanced on that grain, and its condition

[30] Andreas, *Chicago*, 2:376; cf. *Chicago Tribune*, Oct. 22, 1868.

[31] G. W. Stephens, "Some Aspects of Early Intersectional Rivalry for the Commerce of the Upper Mississippi Valley," in *Washington University Studies, Humanistic Series*, 10 (2):287–288, 293 (April 1923). The papers of the fifties have many items about the rivalries of grain markets, particularly Chicago and St. Louis. For examples, see *Chicago Daily Democrat*, Aug. 16, 1849; *Chicago Democratic Press*, Sept. 20, 1855; *Springfield Journal*, Aug. 21, 1855; and *Cairo Weekly Times and Delta*, July 15, 1857. The last two references are from the Cole Notes, Urbana, Illinois.

[32] *Chicago Tribune*, Apr. 17, 1875, May 24, 1879.

while in store.[33] Sometimes the grain failed to move smoothly and then the money market might become nervous or tight.[34] However, the grain trade, chiefly through Chicago elevator receipts, was normally a prime source of credit for Middle Western growth.[35]

As a result of its location and facilities, Chicago gained a preeminence as a speculative grain market in the 1860's which it continues to hold.[36] The Federal Trade Commission, in its thorough study of grain futures, said: "A history of future trading in grain in the United States would be chiefly the history of the Chicago market."[37] While grain has always been a subject of speculation in the sense that it has been held for a rise in the market,[38] trading in grain futures was a unique development, differing from any previous speculation and largely dependent on the grain elevator system. During the 1840's grain was sold "to arrive," that is, months ahead of actual delivery, but in most cases the seller knew where his grain was coming from and probably had already purchased it.[39] Complete speculation was not possible without a system of grades and receipts, for there could be no extensive short-selling "and without short-selling there could be no operations 'for the fall,' that is, operations in which the dealer seeks to secure profit by selling for forward delivery at one price and by making the delivery with goods bought later at a lower price."[40] This kind of speculation

[33] *Ibid.*, June 18, Aug. 21, 23, 28, 1872.

[34] U. S. Senate, *Routes to the Seaboard*, 2:348.

[35] The following give some idea of the significance of Chicago grain in Middle Western finance: *Daily Democratic Press*, Aug. 25, 1854, Sept. 8, 1856; *Press and Tribune*, Oct. 10, 1859; *Chicago Tribune*, Oct. 22, 1868, Apr. 5, 1869, Apr. 17, 1875, Jan. 18, 1879, Feb. 27, May 22, 24, 1879; *Eighth Annual Review of the Trade and Commerce of the City of Chicago, for the Year 1859, as Published in the Chicago Daily Press and Tribune, January 1, 1860*, 5 (Chicago, 1860).

[36] Andreas, *Chicago*, 1:581, 586; Federal Trade Commission, *Grain Trade*, 5:42.

[37] *Ibid.*, 27.

[38] For an example of such early (1845) speculation in Chicago, see: Wilson, Pierce & Co., *Biographical Sketches of the Leading Men of Chicago; Photographically Illustrated*, 73–74 (Chicago, 1876).

[39] *Chicago Daily Journal*, May 24, 1847, Jan. 3, 19, 1848.

[40] Emery, *Speculation*, 39. For the beginnings of futures trading in Chicago, see C. H. Taylor, ed., *History of the Board of Trade of the City of Chicago*, 1:107,

first developed in Chicago where a system of grades and receipts was concomitant with the first elevator system.

The scale of grades provided the necessary homogeneity for dealing in futures.[41] A second requisite of such trading was durability of the product which permitted in effect "a physical exchange from present to future."[42] In a manner unequaled, the Chicago elevators, with drying and cleaning machines as well as space, insured such durability. A third essential for a futures market was an adequate, constant, flowing supply of the commodities. Without the proper facilities for handling and storing, the necessary supply would not have been available.[43] A final necessity for speculation was the credit that came to Chicago on the basis of warehouse receipts. The elevator system of Chicago was the basis of its futures market.

The elevators frequently played an important part in the continually recurring corners and squeezes from 1865 to 1900, for they might influence the grain supply in numerous ways. Usually, however, they were passive tools, buffeted about by cliques who wished to control their storage space, and thus block the Chicago gateway.[44] Although elevators have an important place in the history of corners, their direct influence was not great in most cases.

The specific effects of futures trading have been complex and uncertain, but most students of commerce agree that the commodity exchanges, of which Chicago was the pioneer, have played an essential and useful rôle in the system of exchange. Trade in futures to the extent of 21,700,000,000 bushels annually in the late 1880's, and large amounts before and after that date, is undoubtedly a phenomenon which has had profound ramifica-

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193, 2:897 (Chicago, 1917). For the close relationship between elevators and futures trading, see Charles M. Fritz and Blair Stewart, *The Public Elevator Situation in Chicago*, 3-5 (U. S. Department of Agriculture, Grain Futures Administration, Washington, 1932).

[41] Federal Trade Commission, *Grain Trade*, 5:24-25.

[42] *Ibid.*, 25.

[43] *Ibid.*

[44] *Chicago Tribune*, July 17, 20, 1869, June 19, 1872, Sept. 1, 28, 1881; *American Elevator and Grain Trade*, 6:15 (July 15, 1887). Cf., references in footnote 35.

tions in the development of public opinion, credit conditions, crop production, routes of trade, markets, and industries.[45]

Since the elevator system was such an essential part of the economic life of the nation, it was important that it run efficiently and smoothly, but a new system, expanding rapidly in a virgin commercial field was bound to have difficulties.[46] Many groups, often inharmonious, had large stakes in a system that acted as custodian for millions of bushels of grain and that issued receipts that became the basis for a large part of the commerce of the West. Farmers wanted middlemen's charges held as low as possible, but elevator men did not consider themselves the offending middlemen. Chicago commission men and bankers wanted elevator men to be entirely responsible for their warehouse receipts, but warehousemen wanted to be free to issue them at will and to define their liabilities. Elevator men insisted on keeping the advantage of retaining choice grain for themselves, but commission men opposed the practice as a kind of unfair competition. Only the railroads and the elevators were harmonious, and in any fight it was generally these two groups and their protegés against all comers.

During the almost continuous fight for cheaper transportation in the 1860's and 1870's, the powerful Chicago elevator ring seemed a logical point for attack by merchants' associations, cheap transporation associations, commercial bodies, and farm groups.[47] In nearly every case the crusading *Chicago Tribune* could be counted on to raise the "hue and cry."

The main charges against the Chicago elevators during the 1860's and 1870's were: Their rates were too high; They cheated on weights; They tampered with grain in store, keeping the best for themselves; Their receipts were not accurate and reliable; They sometimes issued fictitious receipts for the purpose of

[45] Federal Trade Commission, *Grain Trade*, 5:42.

[46] The following summary is based upon many sources, including newspapers, farm papers, reminiscences, etc. A good account may be had from Goldstein, *Marketing*.

[47] *Chicago Tribune*, Jan. 11, 12, Feb. 14, 21, 1866, Sept. 10, Nov. 26, 1870; *Western Rural*, 13:412 (Dec. 25, 1875), 14:4 (Jan. 1, 1876); H. C. Bradsby, *History of Bureau County, Illinois*, 204 ff. (Chicago, 1885).

influencing the market; They combined among themselves and with the railroads to prevent any competition that might eliminate the above abuses.[48]

It is impossible to determine the exact degree of truth in these charges, and if they were proved, it would be impossible to determine their effects. However, there is considerable evidence in support of each accusation, and it is quite certain that the Chicago elevator industry of the 1860's and 1870's was a virtual, if not a virtuous monopoly. The entire business was in the hands of about a dozen men who cooperated closely and became very wealthy.[49] On the whole their business morality was probably as high as that of similar groups of the period, but this uncontrolled power did breed abuse and uncertainty. Injured parties attempted to have the elevators brought under control. The Board of Trade, a commercial body representing divergent trading elements, was continually at war on questions concerning the warehouses. It set up a workable system of inspection by agreement with the warehousemen, and warehouse receipts came to have usual validity in the 1860's. However, the Board did not have sufficient powers of enforcement, or perhaps these were weakened by the elevator forces within its camp.[50]

In 1865–66 a number of economic circumstances caused a wave of agrarian discontent in portions of the upper Mississippi Valley.[51] The high cost of transportation seemed the chief concern, and the Chicago elevator system was regarded as an important transport factor in robbing the farmer of the full reward for his grain. The agitation culminated in 1867 when

[48] In addition to citations in note 47, see *Prairie Farmer*, 16:365 (Nov. 18, 1865); *Chicago Tribune*, Jan. 4, Apr. 21, 1866; *Illinois State Journal*, Jan. 4, 1867; *Debates and Proceedings of the Constitutional Convention of the State of Illinois, convened at the City of Springfield, Tuesday, December 13, 1869*, 2:1622–1637, 1693–1701 (Springfield, 1870).

[49] *Chicago Tribune*, Jan. 7, 1865, May 2, 1867, Jan. 23, 1868, June 4, 1870, Nov. 26, 1872, Feb. 1, 1873. The Chicago elevators have always been in the hands of a few men.

[50] The attempts of the Board of Trade to bring the elevators under its control may be followed in Taylor's *History of the Board of Trade*.

[51] In addition to references in notes 47 and 48, see Frederick Merk, *Economic History of Wisconsin During the Civil War Decade*, 308–328 (Madison, 1916).

certain elements of the Board of Trade had introduced into the venal legislature of Illinois a bill to regulate warehouses. After a bitter fight, similar to that in other railroad-owned legislatures of the time, the bill became the only important public law passed at that session. It did not, however, provide sufficient remedy and remained almost unenforced.[52]

In 1869–70 the whirlwind of discontent again gathered force and again the Chicago elevator system loomed prominently in its path. The commission men and other members of the Board of Trade made specific proposals, and the constitutional convention of 1870 and the legislature of 1871, backed by farm sentiment, approached the problem with a firmness and enthusiasm that left the Board of Trade members breathless. A lengthy article prescribing governance of grain elevators was put into the constitution and a supplementary radical warehouse law was passed in 1871.[53] These measures defined public warehousing and put the entire business almost completely under State control. Even the maximum charge was prescribed. The elevator men defied the law and challenged its constitutionality until the United States Supreme Court decided against them in the historic case of Munn *vs.* Illinois, in 1876.[54] In all these legislative battles the commission men of Chicago, in a sense the farmers' representatives, seemed to provide specific proposals which the farmers seized eagerly, amended, and passed into law. This body of warehouse law was the first to develop in modern industrial society, and as such was not only extremely important to the world's greatest grain market, but also to the railroads and all the grain trade, and to the many States which used the legislation of Illinois as a pattern.[55]

[52] *Chicago Tribune*, Jan. 18, 23, 24, Feb. 16, 1867, Nov. 26, 1870; Goldstein, *Marketing*, 18–26; *Chicago Times*, Mar. 9, 1870; *Chicago Evening Post*, Apr. 1, 1870.

[53] *Debates and Proceedings of the Convention* (1869–1870), 2:1622–1637, 1693–1701; *Chicago Tribune*, Jan. 5, 1871, Apr. 17, 1871. For the law, its interpretation and early workings see the early (1871 ff.) annual reports of the Illinois Railroad and Warehouse Commission and Goldstein, *Marketing*, 43 ff.

[54] Munn v. Illinois 94 U. S. 113.

[55] 57 Congress, 1 session, *House Document 180*, "Report of The Industrial Commission on Agriculture and Taxation in Various States," 208 (Commission's *Reports*, v. 11, Washington, 1901).

By 1880 the Chicago grain elevator business had become systematized and responsible, and it provided a solid basis for the world's greatest grain market. Physical facilities were adequate. A body of established practices had been worked out, and a legal system developed. Chicago grades were quoted everywhere, and Chicago reserves were the basis of world-wide speculation and legitimate trade. The method of storage, transfer, and trade had ramifications which can scarcely be estimated. It may have had much to do with the fact that our flour exports in proportion to wheat and flour fell from 99 percent in 1830 to 85 percent in 1850 and 15 percent in 1880.[56] By contributing to cheap and rapid distribution, it not only helped open up the West but made great cities possible.[57] Its indirect influence on speculation and speculative mania was great, and the speculation and the immense surpluses held in reserve by the elevators affected our entire national economy. As a key factor in the first great modern commodity market the elevator system influenced the development of other commodity markets.

The shifting scene in the years following 1880 placed the Chicago elevator industry in a relatively less important position, and to a considerable extent, changed its function entirely.[58] The complex system gets little publicity, but the Chicago elevators, as the most important of the major terminals have continued to play an essential and difficult part in the market set-up. Their troubled and significant course has been reflected in the attempts at regulation by the Board of Trade, the efforts of farm movements to control terminal elevators, and investigations by the State of Illinois.[59] That their national status has been increasingly recognized is evidenced by the Industrial Com-

[56] Federal Trade Commission, *Grain Trade*, 2:185; U. S. Treasury Department, Bureau of Statistics, *Monthly Summary of Commerce and Finance*, January 1900, 2000–2001.

[57] A. F. Weber, *The Growth of Cities in the Nineteenth Century*, 168–169 (New York and London, 1899).

[58] Federal Trade Commission, *Grain Trade*, 2:79–106; Goldstein, *Marketing*, 97 ff.

[59] *Ibid.*, 285–300.

mission's investigation of 1900, the attention of the Interstate Commerce Commission and the Federal Coordinator of Transportation to the relationship of railroads and elevators, the work of the Federal Trade Commission on speculation, and the recent close scrutiny by the Grain Futures Administration.[60]

We should erect a shrine to Ceres, for she provided us with our greatest commodity in internal and foreign commerce over most of the period from 1850 to 1890. The temple that would perhaps please her most would be uniquely American—the grain elevator. Though the modern importance of her crops was made possible only by a complete revolution in transportation and trade methods, including the use of canals, steamboats, railroads, and commodity exchanges, one of the most essential links in this scheme was the elevator system, first developed at Chicago.

The elevators were necessary adjuncts of the railroads, for, without these terminal facilities, grain could not have been handled in large quantities. The practice of bulk handling of grain by grade made possible the use of uniform warehouse receipts to represent the commodity. In conjunction with the elevators, these receipts facilitated trade between markets, expanded credit, caused the Chicago Board of Trade to become an outstanding exchange, and made futures trading possible. This machinery, copied by many of the world's central markets, made one big world market as far as supply, demand, and price were concerned. The ramifications of the system in the development of industries, routes of trade, markets, and cities are intangible and complex. A system so important and intricate could hardly develop without friction. The Chicago elevators, as a vital part of the transportation scheme, were an important

[60] 56 Congress, 1 session, *House Document 476*, "Report of the Industrial Commission on Transportation, Including Review of Evidence, Topical Digest of Evidence, and Testimony so Far as Taken May 1, 1900," 7–10, 77–88 (Commission's *Reports*, v. 4, Washington, 1900); J. A. Little, *Report on the Leasing of Railroad Owned Elevator Properties* (Federal Coordinator of Transportation Office, Washington, 1936); B. F. Goldstein, *Brief of Leased Elevator Association in Answer to the Little Reports* (Chicago, 1935); Fritz and Stewart, *Public Elevator Situation in Chicago*.

grievance in the Granger period and later. Friction led to regulation by the Chicago Board of Trade, the State Government, and the National Government. As a pioneer commercial development which has occupied a focal position in our modern industrial world, the Chicago elevator system has great historic significance.

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Washington, D. C.

AGRICULTURAL PRESSURE AND GOVERNMENTAL RESPONSE IN THE UNITED STATES, 1919–1929[1]

The organization of a national farm bureau federation in 1919 marked the visible dawn of a new period of activity on the part of organized agriculture and the culmination of an evolutionary process rooted in the extension program developed by the United States Department of Agriculture since the turn of the century. Attaining its stature in a period of steadily advancing agricultural prosperity, the extension movement had been an expression of the prevalent view that the rôle of the Government was to assist the farmer in becoming a more efficient producer as the best means of assuring a continuance of his new prosperity. Contributions from private sources, increased and stabilized Federal and State funds under the Smith-Lever Act of 1914, and additional appropriations under the Emergency Food Production Act of 1917 had made the county agent a familiar figure throughout the agricultural sections of the country, and the county farm bureau had developed as the local organization of farmers through which they carried on social and economic activities. With the multiplication of county farm bureaus, State federations had been formed, and by 1919 these were being brought together in the American Farm Bureau Federation.

In the November 1919 and March 1920 organization meetings of this national association a significant controversy developed. Eastern and Southern representatives urged that the organization, because of its relation to the county agents, should be primarily educational, while delegates from the Middle West insisted that to be effective it must also serve the business and economic interests of the farmer and act as his spokesman in dealing with other groups and with the Government. The immediate solution was a compromise not entirely pleasing to

[1] Presented at the joint session of the Agricultural History Society with the American Historical Association at Providence, Rhode Island, on Dec. 29, 1936.

either side, but within a few months the view of the Middle Western group dominated the organization.

In line with this conception, the American Farm Bureau Federation established a permanent salaried representative and legislative office in Washington. The maintenance of offices in the National Capital by farmers' organizations was a practice which had first received general sanction during the war. The National Board of Farm Organizations had already established a similar office in 1917; the left wing Farmers' National Council, in 1918; and the National Grange, early in 1919. The presence of their representatives was effectively felt before the end of 1920, when the pre-war and war-time prosperity of agriculture had abruptly collapsed, leaving the American farmer stunned and bewildered at the deflation which left him with suddenly retreating land and crop prices and an onerous blanket of debt contracted during a wave of unprecedented expansion and inflation.

In spite of the rising tide of agricultural discontent and the presence of farmers' spokesmen in Washington, the record of the short session of Congress which met in December 1920 offered little evidence of the successful program of agricultural legislation. When the special session of the next Congress assembled in April 1921, this situation was changed, and it was clearly evident that organized agriculture was in a position to exert a significant non-partisan influence. At the same time that Congress was assembling, the executive committees of the American Farm Bureau Federation, the State farm bureau federations, the National Grange, the Farmers' Union, and several others assembled in Washington for a fortnight's conference to frame individual and joint legislative programs for submission to Congress.

An even more extraordinary development was the creation of bipartisan farm blocs in both Houses of Congress. Each of these first met in the Washington office of the Federation and was organized into committees and pledged to consistent support of a program of agricultural legislation. The shaping of this program was worked out in cooperation with the office of the Federation. An effective device was the tabulation of data from

referenda circulated among the farm bureaus which showed each member of Congress exactly how his constituents stood on legislative questions.

The existence of the farm bloc was soon recognized as a disturbing reality by the Old Guard leaders in Congress and by the administration. The Senate bloc had effectively demonstrated its strength early in July 1921 when it defeated an administration move to adjourn the Senate which would have meant the indefinite delay of pending agricultural legislation. So disturbed was President Harding that he sent for Gray Silver, the Washington representative of the Federation, and it was agreed that the farm bloc would consent to an adjournment of the Senate *after* certain of the agricultural measures had been passed. Before the adjournment on August 24, Congress had enacted the Packer and Stockyards Act, the Futures Trading Act, the Agricultural Credits Act of 1921 extending the powers of the War Finance Corporation, and amendments to the Federal Farm Loan Act designed to facilitate its operations.

By 1922 the clashes between the administration and the farm bloc were becoming fewer and less vehement. After the passage of the Capper-Volstead Cooperative Marketing Act of 1922, the remaining major item on the farm-bloc program was the problem of agricultural credit. It had been contended for some time that there must be an adjustment of short-term credit facilities to the turn-over in crop and livestock production to enable the farmer to adopt a program of orderly marketing. The Agricultural Credits Act of 1923, passed on the last day of the session of the Sixty-seventh Congress, set up a system of intermediate credit banks under the supervision of the farm loan system, authorized the formation of national agricultural credit corporations, amended the Federal Reserve Act to liberalize its services to agriculture, and extended the War Finance Corporation to March 1, 1924.

After 1923, the farm bloc, in the sense in which it had operated during the summer of 1921, disintegrated. The term was still widely used by the press to describe the supporters of agricultural legislation, but the formal organization was dropped. The

Washington office of the American Farm Bureau Federation had also modified its methods. Instead of trying to develop a lengthy, diverse program of legislation with a large group of Congressmen, it tended to work more and more with smaller committees on individual items of its program. The dominant rôle which the McNary-Haugen bill came to play in the new Congress was also a blow to the old farm-bloc solidarity since this measure in 1924 was almost universally opposed in the South.

While Congress was laboring on intermediate credit legislation, a new movement was reaching significant proportions outside of Congress. As early as 1921, obscure spokesmen from the Northwest had been arguing that the major need was not more credit, but rather an elevation and stabilization of prices of agricultural products. In response to this undercurrent, a number of crudely constructed bills were introduced, some proposing arbitrary Government price-guarantees, others the creation of a Government corporation to buy and sell agricultural products, and particularly to promote their export. For the most part, they failed to obtain the backing of the larger farm organizations and received only a desultory attention in Congress, yet the discussions centering around them furnished the fertile soil in which the McNary-Haugen movement was to take its first roots.

Presented by its author, George N. Peek, then president of the Moline Plow Company, to a group of business men in the fall of 1921, and later elaborated by him and General Hugh S. Johnson in a pamphlet entitled *Equality for Agriculture*, this plan proposed, as a device for making the tariff effective on the large export surpluses of agricultural products and restoring the favorable pre-war ratios of agricultural and industrial prices, the creation of a Government corporation which would deal in a few selected commodities, buy their surplus over domestic needs, and market it abroad at world prices. The system was to be financed by the assessment of a nominal charge, described as the equalization fee, against each marketed unit of the commodity benefited.

After their failure to bring the plan before the National Agricultural Conference in January 1922, Peek and Johnson remained in Washington to urge their proposal upon officials in the Department of Agriculture and finally prevailed on Secretary Henry C. Wallace to call a conference of representative business leaders to hear a discussion of it. Following this meeting, the Bureau of Agricultural Economics quietly proceeded with a series of studies bearing on various phases and implications of the plan. Their results became evident when the new low levels of wheat prices focused attention on the wheat-surplus problem during the summer and autumn of 1923. The matter was discussed by Secretary Wallace at a cabinet meeting in September. On this occasion, and more emphatically in November when he addressed the Chicago Association of Commerce, he indicated that the Department of Agriculture was considering a plan for the restoration of farm-purchasing power by withdrawing exportable surpluses from the domestic market. This recommendation was reiterated in the report on the *Wheat Situation* which came out two weeks later. On his own initiative, Secretary Wallace was also arranging for the drafting of legislation embodying the plan. The preliminary work was done by Charles J. Brand, former chief of the Bureau of Markets. Such was the genesis of the bill introduced on January 16, 1924 in the Senate by Senator Charles L. McNary of Oregon and in the House by Representative Gilbert N. Haugen of Iowa. The three later bills of 1926, 1927, and 1928, while technically perfected and simplified, were based on the same principle, i.e., that it was possible to make the tariff effective on agricultural products only by the maintenance of a device for segregating the exportable surplus.

The first proponents of the measure to come to Washington in 1924 were from the wheat-producing States of the Northwest. Peek's pamphlet had been widely circulated in this region, and during the preceding fall at numerous mass meetings state export-corporation leagues had been formed to work for the embodiment of the plan in national legislation. In 1924 Chester Davis went to Washington as the representative of the Montana

league, and Frank Murphy for that of Minnesota, and both of these men continued in Washington throughout the entire McNary-Haugen movement. The wheat cooperatives of the Northwest, then federated in the American Wheat Growers Associated, were likewise among the early supporters, and sent their president, George C. Jewett, to Washington.

The corn belt, later the hub of the movement, was slower in getting into action. The first strong support from this section came from the Iowa Farm Bureau Federation and the Illinois Agricultural Association whose officers came to Washington in the spring of 1924. During these weeks, however, the American Farm Bureau Federation was being severely criticized in many quarters for its failure to make a more vigorous crusade. In January, the executive committee had voted to support the McNary-Haugen bill, but it was commonly felt that the national federation was only rendering lip service. The real difficulty seemed to lie in the fact that this organization hesitated to take any positive action which would alienate the agricultural sections still in opposition to the McNary-Haugen program.

Following the defeat of the first McNary-Haugen bill active steps were taken to recruit support for the movement over a wider area. In July 1924 the American Council of Agriculture was organized under the presidency of Peek. The creation of the Corn Belt Committee in May 1925, at a meeting in Des Moines sponsored by the National Farmers' Union and of the Committee of Twenty-two at the North Central States Agricultural Conference in January 1926, was indicative of a new aggressiveness on the part of the Middle West. By 1926, the militant corn belt had also succeeded in converting the American Farm Bureau Federation. The addition of two new representatives from the Middle West to the executive committee and the election of Sam H. Thompson of Illinois as president in December 1925 enabled the Federation to assume a rôle in the movement which it could not have done so easily in 1924.

In the early spring of 1926 the first dent was made in the almost universal opposition of the South when Peek attended a meeting of the Board of Directors of the American Cotton

Growers Exchange and secured the alliance of that group. In spite of this victory, the vote on the defeated 1926 bill showed that very little had been accomplished in breaking down Southern Congressional opposition. The work of "converting" the South was continued actively during the summer by Walton Peteet, who had been the secretary and Washington representative of the National Council of Farmers' Cooperative Marketing Associations. Due to financial difficulties of some of its member organizations and to a heated dispute on the issue of surplus-control legislation, the National Council had completely disintegrated early in 1926, and Peteet had come to work with the special McNary-Haugen lobby.

In February 1927, the third McNary-Haugen bill to be debated was passed by both Houses of Congress for the first time. In the last weeks of its consideration, the tobacco cooperatives suddenly reversed their previous stand and urged the inclusion of tobacco as one of the basic commodities. The response in Congress was immediate and served to facilitate the passage of the bill. Almost the entire Kentucky delegation, for example, made a hasty about-face and switched to the support of the bill.

A new bill in which some attempt had been made to meet objections raised in the February 1927 veto message without discarding the equalization fee was passed by Congress in May 1928. On May 25, 1928, came a second veto message. It was generally recognized that it was then too late to pass substitute legislation by Congress, especially since members were anxious to conclude the business of the session before the opening of the national party conventions.

Preparations were made to press for inclusion of an equalization-fee plank in the party platforms. The Republicans at Kansas City, after rejecting the plank offered by the American Farm Bureau Federation and other McNary-Haugen supporters, adopted a plank promising the creation of a Federal farm board empowered to develop a system of farmer-owned and controlled stabilization corporations which would "prevent and control surpluses through orderly distribution"; the Republicans

also offered "adequate tariff protection to such of our agricultural products as are affected by foreign competition." The Democratic platform avoided mentioning the equalization fee by name but pledged the party to solve "the problem of the distribution of the cost of dealing with crop surpluses over the marketed units of the crop whose producers are benefited by such assistance."

The Corn Belt Committee, meeting in Des Moines later in the summer formally endorsed the Democratic plank, and Peek and Davis, severing Republican connections, set up in Chicago a Smith Independent Organizations Committee. Hoover's campaign addresses elaborated on the Republican program for a Federal farm board and stabilization corporations and promised that one of his first acts as president would be the calling of a special session of Congress to take up this legislation as well as "a limited revision of the tariff," presumably confined to agriculture and a few related schedules.

While the farm-relief issue may have been negligible as a determinant of the results of the 1928 election, the outcome of the campaign inevitably decided the immediate future of the debated legislation. The equalization fee was perforce dropped and the veteran McNary-Haugen lobbyists who had bolted the Republican party during the campaign maintained a discreet absence from Washington in 1929. The special session of Congress promised by Hoover convened on April 12 and proceeded to shape legislation along the lines promised in the campaign with a smoothness marred only by the unsuccessful effort of Senate insurgents to include a section providing for the payment of export debentures, a plan which had been advocated by the National Grange since 1926. After weeks of deadlock in the conference committee over the issue, the Senate agreed to withdraw its insistence on the debenture, and the Agricultural Marketing Act became law on June 15, 1929.

Congress did not complete its revision of the tariff until a year later. In spite of the original purpose of limited revision, the tariff act in its ultimate form bore little resemblance to a "farm relief" measure. Not only had there come to be a prevailing lack of faith in the efficacy of a protective tariff to "protect"

large agricultural surpluses, but even the higher agricultural rates were balanced by an elevation of nearly all other rates. Insurgent attempts to limit the revision to agricultural schedules and to incorporate the export debenture which had already been barred from the Agricultural Marketing Act had failed.

The program of an agricultural tariff, whatever may be said of its soundness or efficacy, was a recognition that the movement which had attained such proportions between 1923 and 1928, demanding a sharing by agriculture in the total national prosperity under the protective system, could no longer be ignored. The passage of the Agricultural Marketing Act inaugurated the first major experiment based on the principle that the agricultural surplus constituted a national problem which should be recognized as such by the Federal Government.

The political history of the movement which brought about this recognition properly begins with the years immediately following the World War when the presence of an organized agricultural lobby began to make itself felt as farmers' organizations undertook to establish permanent legislative representatives in Washington. When the war-time prosperity of agriculture came to an abrupt end in the precipitate falling of agricultural-commodity prices in the early months of 1920, this group was on the ground to urge Congressional action in bringing relief to the farmer. Its pressure was first felt in the closing months of the Wilson administration, and much more sharply when, early in the Harding administration, it had gained sufficient momentum to organize a farm bloc in both Houses of Congress for driving through a lengthy program of agricultural legislation. After 1923 the regular farm lobby was considerably augmented by the leading proponents of the McNary-Haugen program who concentrated their efforts on a single measure. By the time of the presidential campaign of 1928 the cumulative effect made it necessary for each of the leading candidates to commit himself to the enactment of some form of farm relief. While it is not the province of this paper to examine the success—or lack of success—which attended the operations of the Federal Farm Board and the stabilization corporations, it may be germane

to observe that when their activities collapsed, they had to be superceded by other approaches to the same problem. That is to say, the agricultural pressure, generated during the post-war years has been and promises to continue to be a factor which cannot be ignored by either major political party.

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HISTORICAL FACTORS AFFECTING AMERICAN TOBACCO TYPES AND USES AND THE EVOLUTION OF THE AUCTION MARKET[1]

The story of tobacco greatly needs an authoritative writer who will portray the subject in a way that will bring out those aspects which make it one of the most remarkable chapters in all agricultural history. Consider, for example, the rapid spread of the culture and use of tobacco over the world after the discovery of America and the extent to which it moulded the history of Virginia and the other southern colonies. Today, in almost every quarter of the globe, tobacco is not only a major source of revenue to governments and one of the large items of international trade, but it ranks high in the capital invested and the number of people engaged in its production, marketing, and manufacture.

In America we are prone to look upon tobacco with a proprietary interest that is not justified by the facts. It was discovered by the Spanish explorers, and the first commerce in it was by Spanish merchants. By 1531, less than forty years after the first voyage of Columbus, Spaniards were cultivating tobacco in Santo Domingo whence it soon spread to Trinidad. Before 1560, it was being grown in Europe. Commercial production in Cuba and Venezuela began about 1580, and in Brazil about 1600. By the beginning of the seventeenth century it was being grown in such faraway lands as South Africa, China, and Japan.

[1] This article was originally presented as an address before the short course for tobacco growers at North Carolina State College of Agriculture and Engineering, Raleigh, North Carolina, on Jan. 19, 1937.

The author wishes to acknowledge his indebtedness to Dr. W. W. Garner, principal physiologist of the U. S. Bureau of Plant Industry, for helpful suggestions.

TYPES AND USES

We speak of tobacco as the great gift of the Red Men to the world, usually having in mind the natives encountered by the early settlers along the James River, but as a matter of fact the English colonists very soon changed from the native tobacco to varieties introduced from the Spanish possessions. Several varieties were apparently introduced or developed as a law enacted in 1632 provided that only the "long sortes" might be grown. Two varieties, namely the Orinoco and the Sweet Scented, appear to have emerged during the early years, and others were no doubt introduced from time to time. The Orinoco, which probably originated in the proximity of the river in South America from which its name was derived, exists in many forms today. Not only are there varieties called Orinoco, but investigators tell us that many others such as the Pryors and their numerous progeny have been evolved from it. Little is known about the early Sweet Scented tobacco. No adequate description of it remains, and there is no certainty that any modern varieties descended from it, although some authorities believe that Maryland tobacco traces back to it.[2]

The types of tobacco grown in America today owe their wide variation in characteristics to differences in environment, cultural treatment, and methods of curing. The initial differences due to these causes have been accentuated by selection, breeding, and changes in cultural and curing practices to meet market requirements. For example, increasing demand and more favorable prices for cigarette grades have resulted in more and more emphasis on thinness of leaf. This trend has resulted in the development of strains that tend toward thinness of leaf and modification of cultural practices, such as closer planting and higher or no topping. This has been especially true of Burley, as evidenced by numerous stand-up varieties which have become popular at the expense of the heavier drooping-leaf strains. Because of wide variations in soil, climate, and methods of culture and curing, differences in the characteristics of tobacco

[2] "The Story of the Development of the Present-Day Varieties of Tobacco," in U. S. Department of Agriculture *Yearbook*, 1936:805–822.

become so marked as to lead to differentiation into types. For example, many of the Broadleaf or Seedleaf varieties of cigar binder tobacco in the Connecticut Valley and Wisconsin are directly descended from Maryland Broadleaf, which is not at all a cigar type. Some of the cigar filler varieties grown in Pennsylvania and Ohio are related, though less closely, to the Maryland type.

The shifting of consumer preferences on a nation-wide and world-wide scale causes types of tobacco to increase or decrease in popularity, and as a result the geography of tobacco production undergoes drastic changes. Types which figure prominently in the world markets in a given decade may later be insignificant because of a greatly diminished demand. Conversely the increased popularity of a newer mode of tobacco consumption may entail the expansion of a hitherto obscure type and even extend its production into new areas.

Not long ago, the fire-cured types of Virginia, Kentucky, and Tennessee largely dominated our tobacco export-trade, and the production of the flue-cured types was practically restricted to Southside Virginia and north-central and northwestern North Carolina, that is, the region now called the Old Belt. The wide expansion of flue-cured into eastern North Carolina, South Carolina, and Georgia is a relatively recent development. Some of us can remember when Henderson was the easternmost tobacco market in North Carolina. In the days when the flue-curing technique was comparatively new flue-cured tobacco was produced for a brief period in the western and northwestern counties of North Carolina, in Tennessee, and even in West Virginia. The new "bright leaf" had caught the fancy of the domestic and foreign trade, and caused a major real-estate boom in farm land formerly considered of little value.

A significant lesson is provided by this episode in tobacco history, for the enthusiasm of the planters spread the production of flue-cured tobacco from its natural Piedmont environment to unsuitable, limestone soils of the mountains, and the venture was of short duration. A similar expansion may occur this year as a result of the high prices in the Burley markets of Kentucky

and Tennessee. A new record high price is being established, and no doubt the imaginations of farmers outside the Burley district are being stirred with the belief that they too can raise Burley and become rich.

As a result of three centuries of experience during which varieties and methods of culture and curing have been matched against the inexorable requirements of popular demand, the production of tobacco has become fairly well stabilized as to types and areas of production. These types have been divided into classes, based mainly on the particular curing method employed.[3] Thus there are four flue-cured types that are well known, the slight differences between them being due to variations in soil and climate.

The next class is called fire-cured. Perhaps smoke-cured would be more exact, for the tobacco is cured in the smoke of slow wood-fires which smoulder on the dirt floors of the curing barns. The process is similar to that by which hams are smoked. Fire-cured tobacco in many respects is quite the opposite of flue-cured. Growers of the former set thirty-five hundred to five thousand plants per acre and top very low in an effort to produce a heavy leaf. The varieties planted are characterized by wide, heavy, drooping leaves, very gummy on the under surface, and preferably dark brown in color. On the other hand, flue-cured growers set out eight to ten thousand plants per acre, top very high or not at all, and strive for a thin, bright yellow leaf, with very little gum.

The heavy, rich, dark tobaccos produced in the fire-cured districts are too strong for smoking, although a very small quantity of the light cutting grades is used for that purpose. A large portion of the domestic consumption goes into snuff, and during the heyday of chewing much fire-cured tobacco was used for plug wrappers and fillers. No doubt some of it is still used in that way. Over a long period of time this type has been popular in southern and southeastern Europe for the manufac-

[3] "Classification of Leaf Tobacco Covering Classes, Types, and Groups of Grades," U. S. Department of Agriculture, Bureau of Agricultural Economics, *Service and Regulatory Announcements 118* (November 1929).

ture of cigars. We formerly shipped many millions of pounds to Italy, largely for cigar purposes, and some is used in this country for what are known as Toscani or Italian cigars, the consumers being mainly of Italian extraction. Fire-cured tobacco is still exported, though in greatly diminished quantities, and is used abroad for cigars, chewing, smoking, and snuff. Italy, however, now produces its own tobacco, and this is one of the reasons for the decline in our production and exports. More important reasons for the decline are the changes that have occurred in tobacco-consuming habits the world over.

The same factors that lifted the flue-cured and Burley types into preëminence have greatly curtailed the market for fire-cured and dark air-cured tobacco. Of the tobacco exported during 1923, 38 percent was flue-cured and 42 percent fire-cured; in 1935, 76 percent was flue-cured and only 16 percent was fire-cured. This is only one of the evidences of the world-wide change in tobacco-consuming habits, and the effects of such change on the economics and geography of tobacco production. Fire-cured tobacco, like flue-cured, is produced in four districts, one in Virginia south of the James River, and three in western Kentucky and northwestern Tennessee.

The next types in the official classification are the air-cured, which are divided into two classes known as the light and dark air-cured. There are two light air-cured varieties—Burley and Maryland. Although they have some characteristics in common they are quite distinct types. Maryland is an old type which, as has been pointed out, may have been derived from the Sweet Scented tobacco of early colonial days. It is a light, rather chaffy tobacco, almost devoid of oil, and is considered to have superior burning qualities. Maryland tobacco in former years was grown primarily for export. For some time, however, its foreign market has been declining. A small percentage of the tobacco used in cigarettes is Maryland. Burley, the other light air-cured type, should be of especial interest to growers of flue-cured tobacco because approximately 85 percent of the tobacco contained in cigarettes consists of these two varieties, between 50 and 55 percent being flue-cured and 30 or 35 percent

Burley. The remaining tobacco in cigarettes consists of so-called "Turkish" or Oriental tobacco and Maryland, principally the former.

The origin of Burley tobacco is not clear. It has been produced in Kentucky and southern Ohio for a century or more, but in the earlier years it was a dark air-cured type. About 1864, one or two plants showing unusual characteristics were discovered and the seed was saved and propagated. This tobacco, which came to be known as White Burley, in contrast with the relatively heavy type previously produced, was lighter in body and color, and in time, owing to its increasing popularity, entirely supplanted the older type which was then called Red Burley. This light tobacco was known for many years as White Burley, but at present it is simply called Burley. The old Red Burley was primarily used for chewing purposes, but with the advent of White Burley, the lighter grades began to be used for smoking tobacco and during the last twenty or twenty-five years they have come into popularity in connection with cigarette blends. The heavier grades are still used in the manufacture of plug and twist chewing tobacco, but the consumption of these products is very much smaller today than in former years.

The change in character of the demand for Burley tobacco from chewing to smoking and cigarettes hastened the process by which the lighter White Burley supplanted the Red. The premiums paid for thinner, brighter leaf have led to closer planting, higher topping, and plant-breeding work to develop thinner leaf strains, all with the object of producing a higher percentage and better quality of cigarette tobacco. These are the same processes that influenced flue-cured, but in the whole range of American tobacco types Burley has shown the greatest adaptability to meet new trends in consuming habits.

The significance of the change from Red to White Burley and the subsequent modifications of the type cannot be overemphasized. Had it not been for this evolutionary process, which dates back to that chance discovery of one or two plants of unusual characteristics, Burley would still be a dark, air-

cured tobacco, suitable for little except chewing purposes instead of the most important single type of tobacco produced in this country. It still supplies a large percentage of the leaf that is manufactured into plug, twist, and fine-cut chewing tobacco. In addition, Burley supplies the bulk of the pipe tobacco manufactured in the United States and approximately one-third of the tobacco used in cigarettes.

It may be that the fast-rising popularity of cigarettes during the last twenty years has been due in part to the fact that the introduction of Burley into cigarette blends about 1915 made a much superior cigarette possible. If this is true, the growers of flue-cured tobacco have shared in the benefits by reason of the increasing volume of flue-cured as well as Burley tobacco required for cigarette manufacture.

Burley production now occupies most of the counties of Kentucky, many in Tennessee, Ohio, and Indiana, and a few in North Carolina, Virginia, West Virginia, and Missouri. It is even being grown to some extent in Kansas and possibly in northern Alabama. Burley differs from flue-cured not only in its physical characteristics, but in respect to export trade, for whereas more than half of the flue-cured tobacco is normally exported to foreign countries, the exports of Burley are relatively insignificant, ranging from six to twenty million pounds per annum out of a production that has, within the last twenty years, fluctuated between one hundred and seventy-five and four hundred and twenty-five million pounds. Burley tobacco is strictly a limestone country type, although not all limestone soils are adapted to its culture.

The other subdivision of the air-cured tobaccos is known as the dark air-cured class, consisting of One Sucker, Green River, and Virginia Sun-cured. One Sucker, once grown to some extent in Virginia, has disappeared from that State and at present is produced mainly in Kentucky, Tennessee, and Indiana. It is a relatively heavy, coarse type of tobacco with very bony midribs and is entirely unsuitable for smoking purposes. A large part of the domestic consumption is in the form of twist chewing tobacco, and some of the stems are used with fire-cured

in the manufacture of snuff. Much of the crop is made into Black Fat, and a certain percentage of fire-cured tobacco is also used for this purpose. Black Fat is a special product produced by applying steam and high pressure to tobacco to render it very dark. It is dressed with a mineral oil, referred to as tobacco oil, and for many years has been exported to the west coast of Africa, the West Indies, and Central America, although the percentage to the latter two is probably quite small. One Sucker derives its name from the fact that presumably only one suckering during the growing season is necessary. The enormous decline in the consumption of chewing tobacco has reduced this type from a position of considerable importance to one of relative insignificance in the general tobacco picture of today.

Green River tobacco is produced on a limited scale in the counties along the Ohio River in the general neighborhood of Owensboro and Henderson, Kentucky. Some of it is used in the manufacture of chewing tobacco and some for export. In former years considerable quantities were exported, chiefly to England where it was used in the manufacture of chewing tobacco for the British Navy. It has suffered the same fate as One Sucker because of the decline in the consumption of chewing tobacco, and numerous empty tobacco "factories" serve as reminders of an activity that has almost disappeared. The eastern end of the old Green River district was found to be suitable for Burley and is now producing that type.

Virginia Sun-cured is another chewing-tobacco type which has had a similar history, although it has not been, at least in comparatively recent years, an export type. It is a distinctive type. The name Sun-cured is a reminder that in early years the tobacco was hung on racks exposed to the sun for a large portion of the curing period. As a matter of historical interest it seems quite possible that Virginia Sun-cured is very much like the tobacco produced by the early Virginia colonists.

The types of tobacco that have been discussed comprise what are sometimes referred to as the manufacturing and export types. In addition to these, twelve types of cigar tobacco are produced

in the United States, all of which are air-cured. They are not grouped with the air-cured tobaccos but in special classes representing their principal use. First are the cigar filler types, produced mainly in Pennsylvania and Ohio, then the cigar binder types, grown for the most part in Wisconsin, Connecticut, and Massachusetts, and finally the cigar wrapper types from Connecticut and Massachusetts, and, to a less extent, Florida.

The production of cigar tobacco in former years was conducted on a large scale, but cigar consumption, like that of chewing tobacco, went into a decline when the cigarette habit became important. The demand for cigars decreased so rapidly during the recent depression that manufacturers and growers were left with large stocks of leaf on their hands. Tobacco growers found it difficult at first to reduce their scale of operations accordingly, and returns from tobacco production became disastrously low. Consequently the distress among these growers was probably greater than among the growers of most other tobacco types. Drastic production control and recent increases in the consumption of cigars have served to improve the situation materially.

Not only are cigar types combined with tobacco from Cuba, Puerto Rico, Sumatra, Java, and the Philippine Islands in the making of cigars, but the lower grades are used in the manufacture of scrap chewing. This provides an outlet for forty to fifty million pounds a year and is of great importance to the growers. When hail or other climatic factors injure the growing tobacco and render it unsuitable for cigar manufacturing, this scrap-chewing market is particularly valuable.

EVOLUTION OF THE AUCTION MARKET

The auction market is the means by which about 90 percent of the tobacco grown in the United States is sold. In Maryland, a system of sealed bids based on samples from hogsheads is used. The tobacco is packed in hogsheads by the grower, delivered on consignment to brokers in Baltimore, and retained in the casks except for sampling until it reaches the domestic

or foreign manufacturer. This system is analogous to that which prevailed in Richmond, Virginia, more than sixty years ago.[4] Most cigar-type, and some of the fire-cured, tobacco of Kentucky and Tennessee is sold at the barns.

Cultivation of tobacco on a commercial scale at Jamestown was begun in 1612 by John Rolfe, but there is no record of the production and exports until 1618 when both are given as 20,000 pounds. The increase in production was rapid, the total being 40,000 pounds in 1619, 55,000 in 1620, 60,000 in 1621, 500,000 in 1627, and 1,500,000 in 1639. This rapid increase, augmenting supplies already reaching England from other sources, caused market-surplus problems similar to those encountered in modern times. The records are replete with efforts, legislation, edicts, etc., to regulate production, control the quality of exports, fix prices, and in various other ways to solve the problems arising from overproduction of tobacco and inadequate marketing machinery in the struggling colonies of Virginia and Maryland.[5]

Commerce with the Jamestown colony was at first monopolized by the Virginia Company. This was followed by a short-lived experiment with a subsidiary trading corporation, organized to carry merchandise to the colony and gather produce for transport back to England which ended in 1620 just when tobacco production was attaining sufficient importance to be recorded in the statistics.

Dr. L. C. Gray of the U. S. Department of Agriculture has said:[6]

> In the last three years of the company period ships of the subsidiary colonizing corporations and private adventurers carried on the bulk of the trade, and for a number of years afterward the colony was compelled to rely on peripatetic merchant ships which came irregularly. As they went about from plantation to plantation collecting the cargo the planter found himself largely at their mercy,

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[4] For a more detailed discussion of present marketing methods, see C. E. Gage, "American Tobacco Types, Uses and Markets," U. S. Department of Agriculture *Circular 249* (Washington, 1933).

[5] For details, see L. C. Gray, "The Market Surplus Problems of Colonial Tobacco," in *Agricultural History*, 2:1-34 (January 1928); and V. J. Wyckoff, *Tobacco Regulation in Colonial Maryland* (Baltimore, 1936).

[6] L. C. Gray, in *Agricultural History*, 2:13-15 (January 1928).

for if he failed to sell on the terms offered, another ship might not come his way. The lack of any knowledge of market conditions, except neighborhood hearsay, increased the planters' disadvantage in bargaining. These conditions were responsible for a number of acts against engrossing and forestalling, and also for the earlier attempts to establish port towns or concentration markets at Jamestown and St. Mary's, attempts which failed through the influence of the merchants. . . .

One important step in the evolution of a more effective mechanism of marketing was the development of a class of merchants specializing in the trade of a particular province. Thus, in time mention is made of the "Virginia merchants" and the "Carolina merchants" as being two separate groups. We also hear of "Exchange in the Virginia Walk" in London, suggesting a definite place where Virginia merchants met for trade. Since tobacco was practically the only important product brought from Virginia and Maryland the merchants dealing with these colonies were necessarily tobacco merchants who were specialists in sorting, processing, and selling that product and who had developed a definite relationship to the British and continental markets. From a very early time and throughout the colonial period the tobacco merchants exerted a large influence on legislation affecting tobacco and were frequently consulted by administrative officials and Parliamentary committees. Furthermore, they achieved a considerable degree of unity of action.

Early tobacco marketing was characterized by the visits of casual trading vessels and the development of a class of tobacco merchants in England. The next step was the development of a definite relationship between the producer and the tobacco merchant. Thus began the consignment system by which tobacco was shipped to England on consignment to merchants who ultimately came to represent the planters in purchasing needed merchandise such as "plate, drapery, shoes, and tailored clothing and frequently performed more intimate services such as looking after visiting relatives in England."[7]

This system, however, was subject to abuses. The indebtedness of the planter placed him at the mercy of the merchant and necessitated an undue reliance on his fairness and honesty. Moreover, the planter was assessed for numerous petty charges in addition to import duties, commissions, and shipping costs. These abuses were graphically described in later years by Thomas Jefferson who wrote:[8]

[7] *Ibid.*, 16.

[8] Quoted by L. C. Gray, in his *History of Agriculture in the Southern United States to 1860*, 415 (Washington, 1933), from P. L. Ford, ed., *The Writings of Thomas Jefferson*, 4:288.

long experience has proved to us that there never was an instance of a man's getting out of debt who was once in the hands of a tobacco merchant & bound to consign his tobacco to him. It is the most delusive of all snares. The merchant feeds the inclination of his customer to be credited till he gets the burthen of debt so increased that he cannot throw it off at once, he then begins to give him less for his tobacco & ends with giving him what he pleases for it, which is always so little that though the demands of the customer for necessaries be reduced ever so low in order to get himself out of debt, the merchant lowers his price in the same proportion so as always to keep such a balance against his customer as will oblige him to continue his consignments of tobacco.

In spite of its shortcomings, the consignment system prevailed for many years.

A commercial mechanism for handling tobacco developed in the colonies as well as in the Mother Country. Many of the large planters, with wharves on the river front, began to ship tobacco for smaller neighbors who were not located on navigable water or did not have wharves. This was the beginning of the merchant-planter class whose connections in England gave them advantages in obtaining capital. Some of this class became important as colonizers, wholesale exporters and importers, retail storekeepers, lumbermen, Indian traders, millers, and ore prospectors.

Tobacco marketing was definitely turned in the direction of the present auction system by the warehouse act of 1712. It provided for the establishment of warehouses at convenient points not more than a mile from navigable water. They were to be operated as public utilities with specified rates and conditions of storage. The act was frequently amended in later years and remained the basis of the tobacco-marketing system throughout the rest of the colonial period. Under this system, the hogsheads of tobacco, having been delivered at the warehouses, were opened and inspected by licensed and bonded inspectors. The class and grade were marked on the repacked hogsheads and negotiable receipts issued to the owners. By this essentially modern device progress was made in improving the quality of exports, the commodity was standardized to serve as a medium of exchange, and the customs administration was improved. Eventually a similar system was adopted in Maryland.

For many years, the customary method of selling tobacco was by the display of tobacco notes, that is, the warehouse receipts issued by the inspectors. After the Revolution the inspection of tobacco became lax and prospective buyers frequently had their agents on hand during the official sampling to observe the quality of tobacco for themselves. This practice, which is historically important as opening the way to the auctioning of tobacco, enabled them to detect the better hogsheads and purchase direct from the planters. It seems to have been incorporated into a public auction for the first time at Lynchburg, Virginia, about 1810.[9] The following description appeared in the Richmond *Enquirer* for January 30 of that year:[10]

> One or more hogsheads are opened and a public signal is given, by the sound of a trumpet, that the gentlemen speculators may attend. As many as may be in readiness come forward. The tobacco is broken open, and each one present inspects for himself, and makes up his own private opinion of its quality. The planter must then instantly sell to one of the persons present, for if the sale be deferred, he will be subjected to another inspection. It follows of course, that one of four, six or eight men, sometimes one of two or three, must be the purchaser. None others having seen it, they only are prepared to judge of its value. Possibly the planter may think the offers made him are illiberal, yet it is dangerous to reject them, for if once the gentlemen who attended the inspection turn their backs upon him, he may hawk it up and down the streets in vain. The men who are considered the best judges and who are always ready to buy that which they approve, have seen and refused it, and therefore those who have not seen, cannot act prudently to buy it at all. And as but few men can devote their whole attention to the warehouses, the competitors are but few; insomuch that the buying of tobacco has almost become a monopoly. Still, however, it must be admitted that these men act judiciously, and as they ought to do, under existing circumstances.
>
> Strict regard is had to the qualities of tobacco when carried to any foreign market. Judicious shippers, therefore, re-inspect all their purchases, before they send them on board their vessels. And there are houses in this town, which expend four or five hundred dollars a season in re-opening their tobacco on that very account. It therefore clearly follows, that respect must be had to that circumstance in the first purchase.
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> But this mode of doing the business is new to the planters, and many of them are so embarrassed by it as to receive real injury.

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[9] For a valuable article on the history of the auction system, see J. C. Robert, "Rise of the Tobacco Warehouse Auction System in Virginia, 1800–1860," in *Agricultural History*, 7:170–182 (October 1933).

[10] Quoted by J. C. Robert, in *ibid.*, 172–173.

The hogshead inspection system spread rapidly after the War of 1812 and was the immediate forerunner of the loose-leaf auctions of today. By the early 1830's a new loose tobacco was being brought to market and taken by local manufacturers for immediate use. A bill before the Virginia Assembly of 1833–34 recognized this traffic by attempting to prohibit the sale of loose tobacco at or near public inspections. The next session, however, authorized the town of Lynchburg to appoint weighers of loose tobacco. An act of 1841–42 establishing inspection at the Central Warehouse in Petersburg specified that a portion of the building was to be set aside for loose-leaf tobacco. Loose-leaf sales received more definite legal recognition when the Virginia Code of 1849 required all inspectors to receive, weigh, and inspect the unprized tobacco submitted to them. By 1860, the supply of loose-leaf tobacco at Virginia market centers was equal to 20 or 25 percent of the hogshead inspection.

The transition from hogshead to loose-leaf auctions was not completed for many years, but its manifest advantages for the grower made the change inevitable. It relieved him of the laborious process of prizing the tobacco and enabled him to market his crop in convenient lots at an earlier time. As a result the marketing period was moved near the harvesting season and also shortened. The effect may be appreciated by comparing the marketing period in the Maryland and Burley districts. In Maryland the tobacco is still prized on the farm with the old-time screw presses. The 1936 crop is just beginning to move to market in January 1937. The peak of the marketing period will not be reached until midsummer, and the end of the 1936 crop will still be straggling into Baltimore when the 1937 crop starts to move. In other words, it takes a year to market the crop which ranges from twenty to twenty-five million pounds.

By way of contrast, the Burley crop, ranging from one hundred and seventy-five to four hundred and twenty-five million pounds, begins to move in December of the crop year, and by the first of February at least 80 to 90 percent of the crop has been sold. Even with a large crop, very little remains unsold by the end of February.

The hogshead auctions and the tobacco exchanges in a few markets like Richmond, Virginia, and Clarksville, Tennessee, persisted for a number of years after the Civil War, but today the only hogshead market is at Baltimore.

To summarize, the more significant milestones in the history of tobacco marketing in the South were: the sale to merchant-trading ships which collectively came to be known as the tobacco fleet; the consignment system which still has its counterpart in Maryland; the establishment of public warehouses on navigable water where tobacco in hogsheads was delivered for inspection, storage, and sale; the adoption of negotiable warehouse receipts; the presence of intending purchasers at tobacco inspections; the public auctioning of hogshead tobacco; and finally, the auction of loose-leaf tobacco. The present marketing system is a result of an evolution that has been going on for more than three hundred years. By slow and at times faltering steps, the marketing machinery has been improved, not only from the standpoint of the grower but of the entire trade. However, it would be wrong to assume that nothing further remains to be done.

A new move toward improving loose-leaf auctions is now under way in the combining of inspection with current price quotations as provided by the Federal Tobacco Inspection Act of 1935. Some form of inspection has been in effect during most of the period since 1619, but the objects were protecting the purchaser, keeping inferior tobacco off the market, and facilitating the use of negotiable warehouse receipts. In its present application, the tobacco inspection service, complete with market news service, is designed to improve and preserve the principle of public auctioning and to protect the seller. Future students of the tobacco-inspection service will probably consider the present period one of the most important milestones of progress in tobacco marketing.

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NEWS NOTES AND COMMENTS

DECEMBER MEETINGS OF THE AGRICULTURAL HISTORY SOCIETY

Chicago

The Agricultural History Society sponsored a joint session with the American Farm Economic Association at Chicago on Monday, December 28, 1936. The president of the Agricultural History Society, Dr. H. C. Taylor of the Farm Foundation, Chicago, acted as chairman and opened the session with a discussion of the need of historical perspective in approaching economic problems. The formal program consisted of two papers: A Century of Adjustment in a Back Area of New Hampshire, by Harry C. Woodworth, agricultural economist at the University of New Hampshire; and Agriculture in the Depression of 1873, by O. V. Wells of the Agricultural Adjustment Administration.

Providence

The Agricultural History Society met currently with the American Historical Association and other historical societies at Providence, Rhode Island, on December 29–31, 1936. The joint literary session of the Agricultural History Society on Tuesday morning, December 29, was devoted to the following papers: Agricultural Pressure and Governmental Response in the United States, 1919–1929, by Professor Alice M. Christensen of St. Mary's College, Notre Dame, Indiana; The Historical Significance of the Chicago Grain Elevator System, by Mr. Guy A. Lee of the Brookings Institution, Washington, D. C.; and The Influence of English Agriculture on American Agriculture, 1775–1825, by Mr. Rodney C. Loehr of the University of Minnesota. Mr. Everett E. Edwards, editor of *Agricultural History*, acted as chairman of the session, and about sixty were in attendance. Following the luncheon sponsored by the Agricultural History Society on Thursday, December 31, Dr. L. C. Gray of the U. S. Department of Agriculture presented a brilliant discussion of "The Problems of Land-Use Adjustment in Relation to Their Historical Genesis." Professor Frederick Merk of Harvard University presided.

CURRENT ARTICLES AND BOOKS ON THE HISTORY OF AMERICAN AGRICULTURE

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